



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,194	10/12/2000	Minoru Waki	001350	2228

7590 08/14/2003

Armstrong Westerman Hattori
McLeland & Naughton
1725 K Street N W Suite 1000
Washington, DC 20006

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/673,194

Applicant(s)

WAKI, MINORU

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 09255867.

The rejection is adequately set forth in paragraph 3 of the office action mailed 2/21/03, Paper No. 9, and is incorporated here by reference.

3. Claims 1, 2-3, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tonogaki et al. (U.S. 5,492,952).

The rejection is adequately set forth in paragraph 4 of the office action mailed 2/21/03, Paper No. 9, and is incorporated here by reference.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jakubauskas (U.S. 3,980,602).

The rejection is adequately set forth in paragraph 3 of the office action mailed 8/6/02, Paper No. 5, and is incorporated here by reference.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09255867 in view of Carlson et al. (U.S. 6,136,890) and Suga et al. (U.S. 5,604,276).

The rejection is adequately set forth in paragraph 8 of the office action mailed 2/21/03, Paper No. 9, and is incorporated here by reference.

Response to Arguments

7. Applicants' arguments filed 5/22/03 have been fully considered but they are not persuasive.

Specifically, applicants argue, and examiner agrees, that in each of JP 09255867, Tonogaki et al., and Jakubauskas, the crosslinking agent and dispersant are simply mixed together and that crosslinking does not occur until after the composition is applied to substrate after drying.

Applicants argue that none of the cited references disclose a dispersion in which the resin is crosslinked while maintaining the state of dispersion.

However, the present claims only require water-based pigment dispersion wherein the dispersant, i.e. thermoplastic resin containing carboxylic group, is "crosslinked with a crosslinking agent after the pigment is dispersed with the thermoplastic resin". Given that each

of JP 09255867, Tonogaki et al., and Jakubauskas disclose crosslinking after application of the dispersion to substrate, it is clear that the dispersant is in fact crosslinked "after the pigment is dispersed" as required in the present claims. That is, based on the requirement in the present claims, the crosslinking can occur at any time "after the pigment is dispersed" with the resin, which clearly includes after the application of the dispersion to the substrate. There is no requirement in the present claims that the resin is crosslinked while maintaining the state of dispersion or that the crosslinking cannot occur after application to substrate.

For instance, example 10 of Tonogaki et al. disclose first forming pigment dispersion followed by addition of crosslinking compound, followed by printing onto substrate, and drying which as set forth in col.8, lines 9-18 of Tonogaki et al., is when crosslinking occurs. Thus, the resin is crosslinked after the pigment is dispersed and thus, Tonogaki et al. meets the scope of the present claims.

It is noted that applicants have filed 1.132 declaration on 5/22/03, which compares water-based pigment dispersion of present invention in which the pigment is dispersed with the thermoplastic resin dispersant followed by crosslinking the dispersant with crosslinking agent, with water-based pigment dispersion outside the scope of the present claims wherein crosslinking agent is merely contained in the pigment dispersion and thus, the thermoplastic resin is not crosslinked with the crosslinking agent. It is shown that pigment dispersion of present invention is superior in terms of stability. However, it is the examiner's position that the declaration does not establish unexpected or surprising results over the cited prior art for the following reasons.

It is the examiner's position that the declaration does not compare the present invention with the "closest" prior art. That is, the declaration compares pigment dispersion where the pigment is dispersed with the thermoplastic resin dispersant followed by crosslinking the dispersant with crosslinking agent with pigment dispersion where the pigment is dispersed with the thermoplastic resin dispersant followed by addition of crosslinking agent wherein the crosslinking agent is merely mixed with the pigment dispersion and the dispersant is not crosslinked with the crosslinking agent.

However, JP 09255867, Tonogaki et al., and Jakubauskas do disclose crosslinking the dispersant. The only difference is that these references disclose crosslinking the dispersant at a different time than in the present invention. That is, while the present invention discloses forming pigment dispersion followed by crosslinking dispersant, followed by coating substrate, the references each disclose forming pigment dispersion, followed by coating substrate, followed by crosslinking. However, in each case, the end result is the same; the dispersant is crosslinked after the pigment is dispersed as required in the present claims. There is nothing in the present claims that prevents the crosslinking from occurring after application to substrate. The present claims only require that crosslinking occur after the pigment is dispersed which is clearly met by the cited references.

The declaration is not persuasive because it is the examiner's position that JP 09255867, Tonogaki et al., and Jakubauskas already meet the limitations of the present claims. That is, the present claims only require that that the thermoplastic resin is crosslinked with crosslinking agent after the pigment is dispersed with the resin. This is disclosed by either JP 09255867,

Tonogaki et al., or Jakubauskas. In each reference, the pigment is dispersed by resin to form pigment dispersion, crosslinking agent is added, and then the composition is coated onto substrate, whereupon drying, crosslinking occurs. This clearly meets the limitation that crosslinking occur after the pigment is dispersed. While the crosslinking occurs at a different time than in the present invention, there is nothing in the present claims that excludes when the crosslinking occurs as long as the crosslinking of the dispersant occurs "after the pigment is dispersed". The present claims are drawn to pigment dispersion, not method of making the pigment dispersion or method of using the pigment dispersion. The present claims only require pigment dispersion wherein the dispersant is crosslinked after dispersing the pigment, which as described above, is disclosed by the cited prior art.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

EP 395955, an English translation of which is included with this office action, discloses water-based pigment dispersion wherein the pigment is dispersed by thermoplastic resin wherein the ratio of pigment to thermoplastic resin 1/0.1 to 1/50 and wherein the resin is subsequently crosslinked. However, there is no disclosure that the thermoplastic resin contains carboxylic acid groups and no disclosure of ratio of crosslinking agent to resin as required in the present claims.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

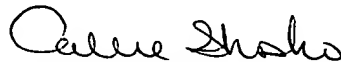
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

CS
August 8, 2003


Callie E. Shosho
Primary Examiner
Art Unit 1714